

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 11

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOHN C. FOURNIER, GERALD L. KELLY III,
JOHN F. CRICHTON, and THOMAS J. BENEDETTO

Appeal No. 1998-0546
Application No. 08/560,507¹

ON BRIEF

Before MARTIN, RUGGIERO, and BARRY, Administrative Patent Judges.

MARTIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 and 7, all of the pending claims, under 35 U.S.C. § 103. We reverse.

¹ Application for patent filed November 17, 1995.

A. The invention

The invention is a bottle which is intended to be used to collect untransferred developer material obtained by cleaning reproduction apparatus dielectric members. Prior art collection bottles, typically made of polyethylene, experience static charge buildup, which can cause arcing and electrical interference and may present a shock hazard (Spec. at 1, line 33 to p. 2, line 12). Appellants solve this problem by forming the collection bottle of a conductive material, such as a carbon-doped plastic. The embodiment shown in Figure 2 has a unitary tab 52 for permitting the bottle to be connected to a grounded support plate 56 by a screw 54. Alternatively, as shown in Figure 4, the bottle can have a tab 52' located near the neck for connecting the bottle to ground plate 56' by an extensible cable 60, thereby permitting the bottle to be emptied without disconnecting the ground connection (Spec. at 8, line 11 to p. 9, line 5). The carbon dopant is present in an amount which produces a volume resistivity of less than 10^8 ohm-cms and preferably is present in amount of about 15-20% by weight to

Appeal No. 1998-0546
Application No. 08/560,507

produce a volume resistivity in the range of 10^3 - 10^6 ohm-cms
(Spec. at 7, lines 20-29).

B. The claims

Claims 1 and 7 read as follows:

1. A bottle for collecting untransferred developer material and debris cleaned from a dielectric member of a reproduction apparatus, said collection bottle comprising:

a container having an opening adapted to receive untransferred developer material and debris therethrough for storage within said container, said container being made of a conductive material, said conductive material being a carbon-doped plastic having a volume resistivity of less than 10^8 ohm cms with said carbon dopent [sic] being approximately 15-20% by weight; and

an electrical tap including a tab integrally formed with said container and connected to electrical ground, whereby static charge build-up is substantially prevented.

7. The bottle of Claim 1 further including an electrically conductive, extensible cable connected at one end to said tab and at the other end to said electrical ground.

C. The references and rejections

Appeal No. 1998-0546
Application No. 08/560,507

The rejections are based on the following references:²

Murata	5,378,526	(U.S.)	Jan. 3, 1995
Hasumi ³	S59-74082	(Japan)	Apr. 26, 1984
Yoshikawa et al. (Yoshikawa)	61-163363	(Japan)	Jul. 24, 1986
Schmidl and Lücker ⁴ (Lücker)	4,412,206	(Germany)	Aug. 31, 1995

Claim 1 stands rejected under § 103 for obviousness over Yoshikawa in view of Hasumi and Murata.

Claim 7 stands rejected under § 103 for obviousness over Yoshikawa in view of Hasumi, Murata, and Lücker.

D. The merits of the rejection of claim 1

Rather than using the prior-art plastic collection bottle described in appellants' specification as the primary reference, the examiner begins with Yoshikawa, whose Figure 3 shows a prior-art (as to Yoshikawa) non-conductive housing 11a for collecting positively charged, unused toner particles

² Our understanding of the foreign references is based on the English-language abstracts relied on by the examiner and on the translations (copies attached) obtained by the Patent and Trademark Office.

³ Referred to by the examiner and appellants as "JP# 59-74082.

⁴ Incorrectly identified in the English-language abstract and by the examiner and appellants as "Luecke."

Appeal No. 1998-0546
Application No. 08/560,507

removed from photosensitive drum 10 by cleaning blade 12. The positively charged toner particles in housing 11a interact with the negatively charged paper 13 to produce a magnetic field 17 which attracts the paper toward the housing, causing displacement of the paper and possible disturbance of the toner image thereon (Trans. at 4, lines 5-9 and 14-18).

Referring to Figure 1, Yoshikawa solves this problem by making the cleaning-device housing 2a conductive and connecting it to ground (Trans. at 6, lines 11-13), as shown by the ground symbol, which symbol the translation (at 6, line 12) refers to as "figure 6" and the examiner describes as an "integrally formed tap '5'" (Answer

at 3-4). Alternatively, as shown in Figure 2, the housing can be connected to a negative biasing source 8. While Yoshikawa explains that "[m]etals, conductive plastics, and plastics whose surface has been treated for electrical conduction are suitable for use in making the container 2a" (Trans. at 6, lines 21-23), Yoshikawa fails to give an example of a suitable conductive plastic or to specify the volume resistivity or doping weight. Nor does Yoshikawa indicate that the housing may be formed with a tab for forming the illustrated

Appeal No. 1998-0546
Application No. 08/560,507

connection either to ground or the source of negative potential.

As evidence that it would have been obvious to form Yoshikawa's conductive plastic housing of carbon-doped plastic having a volume resistivity of less than 10^8 ohm-cms, the examiner relies on Hasumi, which discloses a storage container for integrated circuits. Hasumi explains that whereas prior art containers formed of synthetic resin have high resistivity and thus experience static problems (Trans. at 1-2), Hasumi's containers are made of carbon-doped styrene, polyethylene, or polypropylene having a volume resistivity of from 10^4 to 10^{10} ohm-cms, which is said to be suitably protective (Trans. at 3, lines 8-22). The portion of this range under 10^8 falls within the claimed range.

Appellants' complaint that one skilled in the art would not have looked to Hasumi because it has "nothing at all to do with a container for untransferred developer material and debris" (Brief at 5) is unconvincing for two reasons. First, because the only reference to collecting untransferred developer material and debris appears in the preamble's statement of intended use, which in our view is not entitled

Appeal No. 1998-0546
Application No. 08/560,507

to weight, the examiner is correct to state that Hasumi's container falls within the appellants' field of endeavor as defined by the claim. This satisfies the first of the two alternative tests for analogous art set forth in Wang Laboratories Inc. v. Toshiba Corp., 993 F.2d 858, 864, 26 USPQ2d 1767, 1773 (Fed. Cir. 1993): "Two criteria are relevant in determining whether prior art is analogous: (1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the art is not within the same field of endeavor, whether it is still reasonably pertinent to the particular problem to be solved." Alternatively, Toshiba's second test is clearly satisfied, because the artisan would have looked to conductive plastic containers of all types, including Hasumi's, to locate a suitable conductive plastic material of which to make Yoshikawa's housing 2a. Furthermore, it would have been obvious in view of Hasumi to form Yoshikawa's housing with a carbon-doped plastic (e.g., polyethylene or polypropylene) having a volume resistivity less than 10^8 ohm-cms, for example a resistivity within the range of from 10^4 to just under 10^8 ohm-cms. It is immaterial that the problem to be solved in Yoshikawa, i.e., the

Appeal No. 1998-0546
Application No. 08/560,507

minimization of electric field 17, is not the same as the problem addressed by appellants, i.e., reducing static electricity. See In re Dillon, 919 F.2d 688, 692, 16 USPQ2d 1897, 1901 (Fed. Cir. 1990) (en banc) (the prior art need not suggest a solution to the particular problem addressed by the applicant).⁵

The examiner's reliance on Murata as evidence that it would have been obvious for the carbon dopant to be present in the weight of approximately 15 to 20% is unnecessary, because this limitation is inherently satisfied when Yoshikawa's housing is made of carbon-doped polyethylene or polypropylene having a volume resistivity in the range of 10^4 to 10^8 ohm-cms. This inherent relationship between resistivity and doping weight is described in appellants' specification, which explains (at 7, lines 23-29) that in carbon-doped polyethylene or polypropylene having a volume resistivity in the range of

⁵ If instead of relying on Yoshikawa the examiner had relied on the admitted prior-art bottle described in appellants' specification and its admittedly known static electricity problem (Spec. at 1, line 33 to p. 2, line 12), Hasumi would be suggesting a solution to the same static problem faced by appellants.

Appeal No. 1998-0546
Application No. 08/560,507

10^3 to 10^6 ohm-cms, the carbon is present in the amount of 15 to 20% by weight.

Nevertheless, we are reversing the rejection of claim 1 because, as appellants correctly note, the Final Rejection fails to address the claim's requirement that the "electrical tap includ[e] a tab integrally formed with said container."

In the Answer (at 6) the examiner argues that

while an 'integral tab' has not been shown in any of the references, it has not been associated [with] any criticality by the applicant and thus it is not believed to be a patentable feature over the prior art.
See In re Dailey, [357 F.2d 669,] 149 USPQ 47 (CCPA 1976 [sic, 1966]).

The examiner's reliance on Dailey is believed to be misplaced.

In that case, the court refused to give patentable weight to the claimed "less than hemisphere" configuration of a disposable nursing container, stating:

Appellants have presented no argument which convinces us that the particular configuration of their container is significant or is anything more than one of numerous configurations a person of ordinary skill in the art would find obvious for the purpose of providing mating surfaces in the collapsed container of Matzen.

Appeal No. 1998-0546
Application No. 08/560,507

357 F.2d at 672-73, 149 USPQ at 50. The question before us involves considerably more than a mere difference in the shape of a claimed element and the shape of the corresponding element in the prior art; instead, the question is whether it would have been obvious to provide Yoshikawa's container with a tab that is "integrally formed with said container," which we understand to mean that the tab is formed as a portion of the container at the same time that the container is formed. In our view, the rejection cannot be sustained in the absence of either (a) a reference suggesting the claimed tab structure or (b) an explanation of why the claimed tab structure would have been obvious even in the absence of a teaching reference. See In re Bozek, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969) (a holding of obviousness properly may be based on the "common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference"). The rejection of claim 1 is therefore reversed.

Appeal No. 1998-0546
Application No. 08/560,507

The rejection of claim 7 is reversed because the foregoing deficiency is not cured by Lückner, which instead is relied on as teaching the extensible cable recited in that claim.

REVERSED

JOHN C. MARTIN)	
Administrative Patent Judge)	
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JOSEPH F. RUGGIERO)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
)	
LANCE LEONARD BARRY)	
Administrative Patent Judge)	

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Appeal No. 1998-0546
Application No. 08/560,507

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Enclosures: PTO translations of Yoshikawa, Hasumi, and
Lücker.